

HELMINTHOLOGICAL ABSTRACTS

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HELMINTHOLOGICAL ABSTRACTS

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54—American Journal of Hygiene.

- a. DAVIS, N. C.—“The microscopical examination of 29,593 human livers from Central and Northern Brazil, with special reference to the occurrence of malaria and schistosomiasis.” XIX (3), 567-600. [1934.]
- b. SCOTT, J. A., AYOUB, G. E. & REITLER, R.—“Hookworm disease in the coastal plain of Palestine.” XIX (3), 601-628. [1934.]
- c. KELLER, A. E., LEATHERS, W. S. & RICKS, H. C.—“An investigation of the incidence and intensity of infestation of hookworm in Mississippi.” XIX (3), 629-656. [1934.]
- d. OTTO, G. F. & CORT, W. W.—“The distribution and epidemiology of human ascariasis in the United States.” XIX (3), 657-712. [1934.]

(a) From the livers of 29,593 persons dying in central or northern Brazil, Davis obtained evidence of infection with *Schistosoma mansoni* in 1,594 cases. The highest incidence occurred in Sergipe, while in Alagoas, Pernambuco and Bahia the incidence was also high. Appreciable infection rates occurred in Parahyba, Espirito Santo and Rio Grande do Norte. Elsewhere the rates were negligible. R.T.L.

(b) The authors have investigated the incidence of hookworm in villages near Jaffa, Palestine, and find that it infects from 50 to 80 per cent. of the population. Clinical signs were frequent. The disease is more severe where the orange groves are more abundant and older. In these the soil conditions for hookworm development especially in the hot season of summer irrigation are ideal. R.T.L.

(c) An evaluation of the hookworm problem in the southern part of the United States reveals encouraging findings. Although treatment has definitely contributed in Mississippi to securing permanent results it is recognized that proper disposal of excreta is of major importance in the ultimate control of the disease. R.T.L.

(d) Otto and Cort summarise published and unpublished results now available on the Ascaris problem in the United States. No important endemic centres occur in the northern or western parts. The real problem is found among the indigenous populations of the Appalachian mountains and the foothills. For the most part in the lowland and coastal plains of the Southern United States the incidence is low. The peculiar distribution is correlated with favourable pollution habits and favourable climatic conditions. The mere introduction of sanitary privies does not constitute sanitation but they are an essential part of an ascaris campaign. These should be structurally adapted for convenient use by young children. Education is a second essential. R.T.L.

55—Annales du Musée d'histoire naturelle de Marseille.

- a. JOYEUX, C. & TIMON-DAVID, J.—“ Sur quelques cestodes d'oiseaux.” xxvi, mémoire II, 26 pp. [1934.]

(a) The authors describe 19 species of avian cestodes from 16 hosts of which 12 are passerines. These include a new species, a new variety and the erection of a new genus for an old species.

The new variety is *Raillietina* (*Raillietina*) *sartica* var. *massiliensis* from the intestine of the sparrow from Marseilles. It differs from Skrjabin's type description in its greater length, broader scolex, smaller suckers, greater number of rostellar hooks and fewer testes, but the authors do not regard it as a separate species.

Anomotaenia passerum n. sp. is recorded from a blackbird in the vicinity of Toulouse. It resembles *A. brevis* Clerc (from the woodpecker, *Picus major*) but is smaller, consisting of about a dozen segments and differs in the size and form of the rostellar hooks. The specimens described may be identical with specimens of *A. brevis* described by Clerc from *Perisoreus infaustus* (Corvidae). The generic name *Neyraia* is suggested for *Taenia intricata* Krabbe (Syn. *Biuterina lobata* Fuhrm.) from the hoopoe (*Upupa epops*). The remaining descriptions are of known species. S.G.S.

56—Annales de Parasitologie Humaine et Comparée.

- a. STEFANSKI, W.—“ Sur le développement et les caractères spécifiques de *Spirura rytipleurites* (Deslongchamps 1824).” XII (3), 203-217. [1934].
- b. GOHAR, N.—“ Les trématodes parasites du milan égyptien *Milvus migrans* avec description d'une nouvelle espèce et remarques sur les genres *Haplorchis* Looss 1899 et *Monorchotrema* Nishigori 1924.” XII (3), 218-227. [1934.]
- c. NEVEU-LEMAIRE, M.—“ Sur la classification des trichostrongylidés.” XII (3), 248-252. [1934.]
- d. ECKMANN, F.—“ Rectifications de Nomenclature.” XII (3), 256. [1934.]
- e. DOLLFUS, R. P.—“ Sur ‘*Taenia*’ *gallinulae* P.J. van Beneden 1858.” XII (4), 267-272. [1934.]
- f. GOHAR, N.—“ Liste des trématodes parasites et de leurs hôtes vertébrés signalés dans la vallée du Nil.” XII (4), 324-331. [1934.]

(a) Stefański has studied the development and morphology of *Spirura rytipleurites* and considers it distinct from *S. talpae* and *S. rothschildi* but identical with *Filaria gastrophila*, which falls into synonymy.

While *S. talpae* is known only from the mole the author considers the principal host of *S. rytipleurites* to be the cat in which he produced complete development by recovering 11 adults from the oesophageal mucosa of an animal experimentally fed with 17 encysted nematodes taken from *Blatta orientalis*. In a detailed description of the third stage larva particular attention is drawn to the lateral organs. From the comparison of certain characters in larvae and adults the author concludes that, after the second moult, growth of the worm is due to an increase in the posterior portion of the body from the region of the ventral boss. J.N.O.

(b) Among 14 species of trematodes which Gohar has recorded from the Egyptian kite, *Milvus migrans*, is a new form, *Haplorchis milvi* n. sp. *H. cahirinus* has been transferred to *Monorchotrema*, and *M. taichui* to

Haplorchis. The superfamily Heterophyoidea and the genera *Haplorchis* and *Monorchotrema* are re-defined. B.G.P.

(c) Neveu-Lemaire considers that some new sub-divisions of the Trichostrongyloidea are desirable for the ready classification of what has recently become a very large group.

He recognizes the following 3 families with their sub-divisions: 1. TRICHOSTRONGYLIDAE, with double uteri and no buccal capsule, containing the *Trichostrongylinae* and *Nematodirinae* n. subf. 2. AMIDOSTOMIDAE, with double uteri and a rudimentary capsule. 3. HELIGMOSOMIDAE, with a single uterus, containing the *Heligmosominae*, *Viannaiainae* n. subf. and *Ollulaninae*. B.G.P.

(d) As the genus *Dollfusina*, proposed by Eckmann for a Bucephalid trematode in the *Z. Parasitenk.* Vol. V, No. 1, has been found to be preoccupied, the author now proposes the name *Dollfustrema*. B.G.P.

(e) Van Beneden's *Taenia gallinula* has not been recorded since his time until now, when Dollfus is able to report numerous specimens from the type host, *Gallinula chloropus*. He gives a full redescription of the parasite and transfers it to the genus *Liga*, for which an emended definition is given. B.G.P.

(f) Gohar gives a list of the trematodes, arranged in families, that have been recorded from the Nile Valley. In each case the host and locality are mentioned. The introduction mentions a second list, arranged under hosts, but this is not published here. B.G.P.

57—Annals and Magazine of Natural History.

- a. BAYLIS, H. A.—“On two Filariid parasites of marsupials from Queensland.” (Ser. 10), XIII (77), 549-554. [1934.]

(a) Baylis revises the synonymy of *Filaria spelaea* Leidy 1875, placing it in the genus *Dipetalonema* and submerging *Acanthocheilonema australe* (v. Linstow) and *Breintlia trichosuri* (Breinl). A new species of the genus *Dipetalonema* named *D. capilliforme* is recorded from the veins of the liver of *Dasyurus hallucatus*. It differs in its remarkable slenderness from all the other Filariids in Australian marsupials. R.T.L.

58—Annual Report of the Agricultural and Horticultural Research Station, Long Ashton, 1933.

- a. KEARNS, H. G. H. & WALTON, C. L.—“Experiments on the control of the chrysanthemum eelworm (*Aphelenchoides ritzema-bosi* Schwartz.)” pp. 66-73. [1934.]
- b. WALTON, C. L., OGILVIE, L. & MULLIGAN, B. O.—“Observations on the pea strain of the eelworm *Heterodera schachtii* and its relation to ‘pea sickness’.” pp. 74-85. [1934.]
- c. OGILVIE, L.—“The effect of formalin on potato ‘sickness’.” pp. 86-87. [1934.]

(a) Kearns and Walton describe the symptoms of eelworm attack on chrysanthemums and give an account of varietal susceptibility and experiments on control methods.

Pyrethrum emulsion and Nicotine-Agral 1 wash proved ineffective for the treatment of rooted cuttings and stools. Some indication of control was obtained by soaking carefully washed stools from which all cuttings had been removed for 1 hour in Nicotine-Agral 1 solution and propagating by means of cuttings formed subsequent to this treatment. Hot water treatment of stools for 20 minutes at 110°F. gave adequate control but retarded development. Temperatures in excess of 115°F. caused damage to the plants.

M.J.T.

(b) Walton, Ogilvie and Mulligan record field observations and experimental work on the pea strain of *H. schachtii* which is widely distributed in the Bristol Province.

Severe infestation was found to produce stunting and yellowing of the plants with great reduction in yield. Foot-rot was frequently associated with the eelworm, causing the premature death of the plant. Broad beans, vetches and red clover were found to be susceptible to attack, and, although most varieties of peas were susceptible, some indication of resistance was found to exist in certain cases. Application of sulphate of ammonia, sulphate of potash and farmyard manure to infected land failed as methods of control, and three years' rotation with non-susceptible crops was insufficient to rid the soil of the nematode.

M.J.T.

(c) Ogilvie records the effects of formalin treatment on soils infected with *Heterodera schachtii* as shown in crop yield.

A marked increase in yield was shown to follow consistently when soil was liberally treated with 1-50 formalin solution a fortnight before planting the tubers. The plants showed vigorous growth and the number of cysts formed on the roots was small as compared with plants in untreated soil.

M.J.T.

59—Berliner Tierärztliche Wochenschrift.

- a. SCHLEGEL, M.—“Die Lungenwurmseuche beim Dachs. II.” I (22), 369-373. [1934.]

(a) Schlegel gives an illustrated and more detailed description of the lungworm which he previously recorded from the badger [see Helm. Abs., II, No. 70a]. The worm is here re-named *Perostrongylus falciformis* n. g. and is placed in the Metastrongylinae close to *Protostrongylus*. The parasite causes nodules and hepatisation in the lung tissue.

B.G.P.

60—British Medical Journal.

- a. CAMERON, T. W. M.—“Parasitic diseases common to man and animals.” No. 3833, 1110-1112. [1934.]

(a) This is the text of an address delivered by Cameron before a joint meeting of the Central Canada Veterinary Association and the Ottawa Medico-Chirurgical Society. In it he briefly discusses the parasites common to man and animals. A few parasites man has brought with him from his simian ancestors; such are malaria and the pin-worm. The majority, however, have been acquired by man's association with the animals he has domesticated. Adequate public health measures should bring these parasitic diseases under control.

B.G.P.

61—Bulletin de l'Institut Océanographique de Monaco.

- a. TIMON-DAVID, J.—“Recherches sur les Trématodes parasites des Oursins en Méditerranée.” No. 652, 1-16. [1934.]

(a) Echinoids are the second intermediate hosts of certain Mediterranean marine trematodes. Timon-David figures and describes in detail two species of metacercaria encysted in the masticatory muscles and Aristotle's Lantern of certain sea urchins. *Zoogonus mirus* encysts in *Paracentrotus lividus*, *Sphaerechinus granularis* and *Arbacia aequituberculata*. The adult of *Z. mirus* inhabits the rectum of *Labrus major* in the Mediterranean. *Metacercaria psammecchini* sp. nov. is described from *Sphaerechinus granularis* and from *Psammecchinus microtuberculatus*.
S.G.S.

62—Bulletins de la Société de Pathologie Exotique.

- a. LEGENDRE, F. M. A. & RAZAFINJATO.—“Note sur quelques cas de bilharziose à *Schistosomum mansoni*.” xxvii (4), 398-400. [1934.]

(a) Infection with *Schistosoma mansoni* is especially common in Madagascar in the region of Ambositra where *Planorbis pfeifferi* var. *madagascariensis* was implicated as the intermediate host by Haslé in 1928. R.T.L.

63—Canadian Journal of Research.

- a. McLEOD, J. A.—“Notes on cercarial dermatitis with descriptions of the causative organisms, *Cercaria wardlei* n. sp., *Cercaria bajkovi* n. sp., and the parthenogenic stage of *Cercaria elvae* Miller.” x (4), 394-403. [1934.]
- b. ALLEN, J. A. & WARDLE, R. A.—“Fluke disease in Northern Manitoba sledge dogs.” x (4), 404-408. [1934.]
- c. SWALES, W. E.—“*Skrjabinema oreamni* sp. nov., a nematode parasite of *Oreamnos americanus* and *Rangifer* sp. in Canada.” x (5), 527-531. [1934.]
- d. PARNELL, I. W.—“Studies on the bionomics and control of the bursate nematodes of horses and sheep. I. The effect of urine on the eggs and larvae in the feces.” x (5), 532-538. [1934.]
- e. HASTINGS, R. J. & NEWTON, W.—“The effect of temperature upon the pre-adult larvae of the bulb nematode *Anguillulina dipsaci* (Kühn, 1858) Gerv. and v. Ben., 1859, in relation to time and moisture.” x (6), 793-797. [1934.]

(a) McLeod has investigated the cause of cercarial dermatitis among bathers in the Clear Lake, Manitoba. 55,000 persons visited the lake during the summer of 1933 and about 50 per cent. of them were affected. Three species of cercariae were found, *Cercaria elvae*, *C. wardlei* n. sp. and *C. bajkovi* n. sp., all of which are here described. All proved capable of producing dermatitis, and all were traced to *Lymnaea obruosa*. *C. bajkovi* was also found in *Physa gyrina*.
B.G.P.

(b) Allen and Wardle describe *Parametorchis manitobensis* n. sp., parasitizing the livers of sledge dogs in northern Manitoba, and give a key to the species of this genus. The fluke causes periportal fibrosis and hypertrophy of the interlobular connective tissue. The disease is marked by progressive weakness and anaemia, often terminating fatally. Circumstantial evidence points to the fish *Catostomus commersonii* as the second intermediary of the fluke, but this has not yet been proved.
B.G.P.

(c) From the American chamois (*Oreamnos americanus*) and the caribou (*Rangifer* sp.) from the Rocky Mountains around the Little Berland River, Swales has found a new species *Skrjabinema oreamni*. A differential table of the five known species is given. R.T.L.

(d) The eggs and larvae of all the bursate nematodes found in the faeces of horses and sheep are killed in 24 hours by the addition of urine even when diluted with 25 per cent. of water. The practical application of this discovery in the control of these parasites on the farm is still under investigation. R.T.L.

(e) Hastings and Newton record the experimental determination of the exposure period necessary to ensure the death of *Anguillulina dipsaci* at various temperatures in both moist and dry environments.

Exposures of 150 minutes at temperatures ranging up to 140°F. in a dry environment were insufficient to kill the pre-adult larvae. In a moist environment exposure of 120 minutes at 110–113°F., and progressively shorter periods at higher temperatures—e.g., 30 minutes at 118.5–120°F., proved lethal. It is suggested that, since the pre-adult stage is most resistant to heat, hot water treatment should be employed not later than 4 weeks after lifting bulbs. M.J.T.

64—Canadian Medical Association Journal.

- a. CUSHING, H. B. & BACAL, H. L.—“*Diphyllobothrium latum*: with particular reference to its increasing prevalence.” xxx, 377–384. [1934.]

(a) Hamilton, in 1901, first reported this tapeworm from Canada from a French Canadian. Cushing and Bacal have studied 50 cases from Montreal recorded between 1906 and 1933; 37 of these have been in the past five years. The worms are most commonly found in Jewish females. No consistent symptoms are noted in the case histories, although a number of cases of anaemia are recorded. A number of fish purchased in Montreal were examined for plerocercoids but these were only seen once—in a pike caught in Lake Winnipegosis, Man. T.W.M.C.

65—Chinese Medical Journal.

- a. KAN, H. C. & YAO, Y. T.—“Some notes on the anti-Schistosomiasis japonica campaign in Chih-Huai-pan, Kaihua, Chekiang.” XLVIII (4), 323–336. [1934.]

(a) The whole district of Kaihua in the province of Chekiang, China, is an endemic centre of *Schistosoma japonicum*. 3.7 per cent. of the snails were found to be infected. Cattle and dogs were reservoir hosts. Fouadin was the most effective remedy from the point of view of simplicity of administration and the slight reaction induced. The prophylactic measures suggested include the burning of grass and the spraying of lime water in the dry ditches during the dry winter season and the use of lime powder in the summer or wet season. Lime water 1 in 2,000 instantaneously kills the free-swimming cercariae. R.T.L.

66—Deutsche Medizinische Wochenschrift.

- a. TÖPPICH, G.—“Nematodenbefunde im Gehirn bei Pellagra.” LX (22), 814-817. [1934.]

(a) Töppich reports a fatal case of pellagra which, at post mortem, showed definite meningitis. During examination of serial sections of the brain nematodes were found in three places. One of these is said to be identifiable as an adult male, but not belonging to any known species hitherto recorded from man. The meningitis is ascribed to the nematode, and the hypothesis that it might also be the cause of the pellagra is discussed, without definite conclusions being reached. Microphotographs are reproduced.

B.G.P.

67—Deutsche Tierärztliche Wochenschrift.

- a. SARNOWSKI, v.—“Über Bekämpfung der Wurmkrankheiten im Preuss. Gestüt Hünnersrück.” XLII (17), 260-264. [1934.]

(a) Sarnowski gives details of the anthelmintic treatment of a number of foals parasitized by ascarids and strongyles, and suggests suitable control methods. Arsenic compounds, tartar emetic and carbon tetrachloride are mentioned, but the doses are not given. Most of the 67 foals required a second treatment and 13 of them a third; and he recommends routine treatment, every 3 or 4 weeks during the first year, with drugs that can be mixed with the fodder. Frequent cleaning of both stables and pastures is urged, together with generous feeding during the first few months. B.G.P.

68—Flugblatt. Biologische Reichsanstalt für Land- und Forstwirtschaft.

- a. GOFFART, H.—“Kartoffelmüdigkeit oder Kartoffelschwindsucht.” No. 129, 4 pp. [1934.]

(a) Goffart describes the symptoms of “potato-sickness” and gives an account of the eelworm *Heterodera schachtii*, its life-history, methods of spread and economic importance. Methods of control are briefly dealt with and the importance of rotation with immune crops is emphasized.

M.J.T.

69—Gartenbauwissenschaft.

- a. PAPE, H.—“Neue Wirtspflanzen der Blattälchen *Aphelenchus ritzemabosi* Schwartz und *Aphelenchus olesistus* Ritz.-Bos.” VIII (3), 477-487. [1934.]

(a) Pape records some new hosts of *Aphelenchus ritzemabosi* and *Aphelenchus olesistus* and describes the symptoms of attack as shown by these plants.

New hosts of *A. ritzemabosi* are:—*Incarvillea delavayi* (Bignoniaceae), *Heuchera sanguinea* (Saxifragaceae), *Rudbeckia nitida* (Compositae), *Anemone silvestris* (Ranunculaceae) and *Lamium album* (Labiatae). New hosts of *A. olesistus* are *Omphalodes verna* (Borraginaceae), *Anemone vitifolia* (Ranunculaceae), *Doronicum plantagineum* (Compositae), *Primula anisiaca* (Primulaceae), *Rudbeckia neumanni* (Compositae), *Paeonia sinensis* (Ranunculaceae).

M.J.T.

70—Giornale di Batteriologia e Immunologia.

- a. BONELLI, P.—“Ricerche sul presunto potere antigene del liquido cistico enchinococcico.” XII (4), 681-685. [1934.]
- b. GIOVANARDI, A. & MONDOLFO, U.—“L'elmintiasi in alcuni centri rurali della Romagna—Ricerche parassitologiche ed epidemiologiche.” XII (6), 1121-1160. [1934.]

(a) Bonelli has recently shown that complement fixation does not occur in the case of animals infected with hydatid. In the present paper he similarly shows that the sera of numerous cattle, sheep and pigs infected with hydatid do not reveal the presence of a precipitin when tested with hydatid fluid as antigen. This fact might be explained by the non-permeability of the cyst wall or by the absence of antigenic power in the hydatid fluid. That the former alternative is excluded is shown by failure of both the complement fixation and the precipitation reactions in the sera of rabbits which had been intravenously injected with hydatid fluid. B.G.P.

(b) The incidence and epidemiology of human helminthiasis in three rural centres in Romagna are reported upon in great detail by Giovanardi and Mondolfo. *Ascaris* (46 per cent.) and *trichuris* (7.68 per cent.) are the commonest helminths. There is an adequate supply of privies in most cases, but they are used seldom and kept in a filthy condition. Infection is by direct contact with polluted soil, and less frequently by vegetables; there is no evidence that water supplies or flies carry infection. B.G.P.

71—Indian Journal of Veterinary Science and Animal Husbandry.

- a. RAO, M. A. N.—“A comparative study of *Schistosoma spindalis*, Montgomery, 1906 and *Schistosoma nasalis*, n. sp.” IV (1), 1-28. [1934.]

(a) Rao compares from different standpoints, *e.g.*, the shape of the egg and the morphology of the miracidium, cercaria and adults the two species *Schistosoma spindalis* and *S. nasalis* and concludes that the two forms are distinct species. The cattle disease “Nasal granuloma” is widespread in the Madras Presidency, especially in those “dry” districts which depend on tanks and ponds for water supply for cattle. R.T.L.

72—Indian Medical Gazette.

- a. MAPLESTONE, P. A.—“The laboratory diagnosis and the treatment of helminth infections.” LXIX (5), 266-273. [1934.]
- b. BAGCHI, K. N.—“The incidence of clonorchis infection in India.” LXIX (6), 318-320. [1934.]

(a) Maplestone describes in detail the so-called Willis method of egg concentration, which according to the author falls little short of the special centrifuge method of Lane. The paper then describes the eggs which are demonstrated by this technique, *viz.*, Hookworm, *Ascaris*, *Trichuris*, *Trichostrongylus*, *Oxyuris*, *Heterodera*, *Strongyloides* and *Hymenolepis* and there follow brief descriptions of the eggs which do not float in the saturated salt solution used in the technique, *viz.*, unfertilized *Ascaris*, eggs of *Taenia saginata* and *T. solium*, *Bertiella studeri*, *Fasciolopsis buski*, *Gastrodiscoides hominis*, *Paryphostomum sufraginifex* and *Heterophyes heterophyes*. In a concluding section the author gives brief remarks on the anthelmintics which have proved most effective in India. Although carbon tetrachloride

is efficacious in hookworm infections the use of alcohol renders it unsafe. Carbon tetrachlorethylene does not suffer from this disadvantage. Santonin is approximately as efficient as oil of chenopodium against *Ascaris* and the two may be usefully combined. Hexylresorcinol removed tapeworms in 50 per cent. of cases with one treatment. R.T.L.

(b) *Clonorchis sinensis* is a rare infection in India. Bagchi points out that the Indian people seldom eat uncooked fish and he is inclined to attribute, without definite evidence, the endemic case recorded by himself to the eating of the water-nut which is an established carrier of *Fasciolopsis buski*. R.T.L.

73—Journal of Agricultural Science.

- a. TAYLOR, E. L.—“The epidemiology of parasitic gastritis in sheep. Observations on the relative importance of the various factors concerned in the development of the disease.” XXIV (2), 192-208. [1934.]

(a) Taylor gives an account of preliminary investigations into the epidemiology of parasitic gastritis in sheep from field observations on the relative importance of the various factors concerned in the natural development of the disease.

The histories of 9 outbreaks are given including the period of investigation, movements of stock, changing of crops, development of the disease and notes on autopsies. Each outbreak is briefly discussed and provisional conclusions drawn therefrom. The author's investigations lead him to conclude that 2 epidemiological types of parasitic gastritis obtain (i) where pathogenic infestation is acquired from a residue of infective larvae present on land and (ii) where such infestation is acquired as a result of auto-infestation. Infective larvae of *Ostertagia* and *Nematodirus* can regain the soil surface, after being turned in by the plough, and retain their infectivity for 8-10 months in sufficient numbers to cause disease in the former species and *en masse* throughout the winter months in the latter case. Severe haemonchosis can develop by auto-infestation alone in 7 weeks on clean arable land while severe ostertagiasis can develop from residual soil infestation alone in 4 weeks. Lambs up to 7 weeks old are not susceptible to haemonchosis but animals 9-10 weeks old may suffer from severe ostertagiasis under farming conditions. On arable land conditions for larval development may be so favourable that the relatively small number of eggs disseminated by ewes may be sufficient to leave a dangerous infection in the soil after once penning over although the residue of infective larvae, where sheep have been penned, may differ in different parts of the field. Six days is sufficient for the mass development of infective larvae under actual field conditions and bare pastures are dangerous since conditions are then optimum for the acquisition of larvae. A plentiful supply of concentrated food does not prevent the development of a severe outbreak where infestation is high and the risk of pathogenic infection is greater on arable land, where precautions are not strictly observed, than on permanent pasture. With an abundance of herbage the grazing of not more than half the crop does not safeguard against the development of ostertagiasis on arable land. J.N.O.

74—Journal of the American Medical Association.

- a. RILEY, W. A. & SCHEIFLEY, C. H.—“Trichinosis of man a common infection.” CII (15), 1217-1218. [1934.]
- b. PUND, E. R. & MOSTELLER, R.—“Trichinosis; demonstration of the parasites in the brain.” CII (15), 1220-1222. [1934.]

(a) In the United States trichinosis is by no means rare to-day but is frequently diagnosed as typhoid, rheumatism and malaria. Examination of the diaphragm in 117 cadavers in the anatomical laboratories of the University at Minneapolis gave 17.9 per cent. cases of unsuspected infection.

R.T.L.

(b) Trichinella larvae were found microscopically in the brain of a child 11 years of age who had died with symptoms of encephalitis following vaccination against smallpox. There was no diarrhoea or eosinophilia.

R.T.L.

75—Journal of the American Veterinary Medical Association.

- a. ANON.—“Report of the Proceedings of the thirty-seventh Annual Meeting of the United States Live Stock Sanitary Association. Report of committee on parasitic diseases.” LXXXIV (3), 543-552. [1934.]
- b. WALLACE, F. G.—“Parasites collected from the moose, *Alces americanus*, in Northern Minnesota.” LXXXIV (5), 770-775. [1934.]
- c. SHOLL, L. B.—“Marked teniasis in a dog.” LXXXIV (5), 805-806. [1934.]

(a) The Report of the Committee on Parasitic Diseases, presented to the 37th Annual Meeting of the U.S. Live Stock Sanitary Association, consists of a résumé of the principal advances made during the year in the knowledge of parasites of horses, cattle, sheep, pigs and poultry, as revealed in U.S. publications. The Committee is endeavouring to secure a nationwide survey of the situation on the basis of information sent in by one or more reporters in each State. A proposal to print Dr. M. C. Hall's card index of parasites of domestic animals in the U.S.A. was referred to the Executive Committee.

B.G.P.

(b) Wallace from an examination of 15 Moose, *Alces americanus*, in Minnesota records the presence of *Dictyocaulus hadweni*, *Nematodirella longispiculata*, *Cysticercus tenuicollis*, Hydatid, *Moniezia* sp?, *Fascioloides magna* and *Paramphistomum cervi*.

R.T.L.

(c) A heavy infection in an 8 months old beagle is reported by Sholl. He found 107 specimens of *Taenia pisiformis* associated with marked haemorrhagic inflammation extending throughout the intestine. There were lesions in other organs. The animal died on the second day of illness and poisoning was suspected.

R.T.L.

76—Journal of Laboratory and Clinical Medicine.

- a. POINDEXTER, H. A. & JONES, R. F.—“*Wuchereria (Filaria) bancrofti* infection in man with an unusual history.” XIX (8), 864-869. [1934.]

(a) In a case, clinically one of elephantiasis, Poindexter and Jones have found the embryos of *Filaria bancrofti*. The patient had lived all his life in the District of Columbia and the mode of infection has not been elucidated.

R.T.L.

77—Journal of Oriental Medicine.

- a. YAMADA, A. & INOUE, K.—“Nourishment of *Ancylostoma caninum* and the histological changes of intestine thereby produced.” xx (4), 52-53. [1934.]

(a) Yamada and Inoue have studied serial sections of *Ancylostoma caninum* attached to the intestinal wall and conclude that the host tissue is digested by the worms but that the red and white corpuscles are passed unchanged. No iron pigment could be found in any part of the worm's tissue.

R.T.L.

78—Journal of Parasitology.

- a. ANDERSON, M. G.—“The validity of *Taenia confusa* Ward, 1896.” xx (4), 207-218. [1934.]
- b. DUNN, L. H.—“Notes on the occurrence of *Gigantorhynchus echinodiscus* Diesing in the ant eater of Panama.” xx (4), 227-229. [1934.]
- c. CROSS, S. X.—“Research notes.—A probable case of non-specific immunity between two parasites of ciscoes of the Trout lake region of Northern Wisconsin.” xx (4), 244-245. [1934.]
- d. OTTO, G. F. & CORT, W. W.—“Research notes.—Further studies on post-treatment reinfection with ascaris in the United States.” xx (4), 245-247. [1934.]
- e. McMULLEN, D. B.—“Research notes.—The life cycle of the turtle trematode, *Cercorchis medius*.” xx (4), 248-250. [1934.]
- f. LOEWEN, S. L.—“Research notes.—The occurrence of a distome metacercaria in a brown rat.” xx (4), 250-251. [1934.]

(a) Anderson finds that there is a series of variations between *Taenia confusa* and *Taenia saginata* which cover all the points of specific difference. He concludes therefore that *T. confusa* is a synonym of *T. saginata*.

R.T.L.

(b) Dunn reports from Panama the occurrence of the Acanthocephalan worm *Gigantorhynchus echinodiscus* in the ant-eater *Tamandua tetradactyla chiriquensis*. A remarkable feature noted was the daily spontaneous evacuation of the worms.

R.T.L.

(c) In a catch of 92 ciscoes from Silver Lake, Cross found only adult *Proteocephalus exigus* and Acanthocephala of the genus *Neoicanthorinchus*. Those fish having 15 or more Acanthocephala had very few tapeworms; conversely those with more than 25 tapeworms had few or no Acanthocephala. The fish with fewer parasites often have them quite evenly divided between the two kinds. Cross believes that the variations are a result of a non-specific immunity limiting either tapeworms or Acanthocephala when one of these is present in large numbers.

R.T.L.

(d) From a study of the amount of reinfection with *Ascaris* in periods of 5 and 8 months after treatment, Otto and Cort emphasize the futility of attempting to control *Ascaris* in community groups by mass treatment especially where there is no improvement in sanitation.

R.T.L.

(e) McMullen believes that the life-cycle of *Cercorchis medius* supports the view that the telorchids are related to the Plagiorchidae. The cercaria of *C. medius* occurs in *Physella integra* and can experimentally infect tadpoles. These when fed to the painted turtle *Chrysemys picta* and to species of *Thamnophis* became adult.

R.T.L.

(f) A new encysted distome metacercaria has been found by Loewen in the muscles of the diaphragm of the brown rat *Epimys norvegicus*. It is nearly related to *Agamodistomum suis* and is named *A. norvegicus* n. sp.

R.T.L.

79—Journal of Tropical Medicine and Hygiene.

- a. GIRGES, R.—“Studies on ascariasis. II. Endemiology. III. Aetiology and prophylaxis.” xxxvii (8), 114-119 ; (11), 162-166. [1934.]
- b. FROES, H. P.—“On a very rare case of Bancroftosis (Bancroft filariasis). Summary and conclusions.” xxxvii (12), 183-184. [1934.]

(a) In the second and third parts of his “Studies on Ascaris” [see Helm. Abs., III, No. 30a] Girges discusses epidemiology and prophylaxis of Ascariasis and deals at length with the difficulties of dealing with the widespread *Ascaris* infection in the Fellaheen in Egypt.

R.T.L.

(b) Froes has found in a latent case of filariasis a number of micro-filariae of *F. bancrofti* in non-haemorrhagic and non-chylous ascitic fluid. He is of opinion that occasionally embryos may appear at abnormal times in the day and night blood in cases of *Microfilaria diurna* and *M. nocturna*. An apparent absence of periodicity may be due to infection with two different species of filariae. Unsheathed microfilariae may occasionally occur in cases of *F. bancrofti* and *Loa loa* infections. The curvatures of the embryos of dried films are not constantly reliable differential characters. The position of the last somatic cell is not a reliable character in differentiating embryos of *F. bancrofti* and *L. loa*.

R.T.L.

80—Journal of the Washington Academy of Sciences.

- a. LINTON, E.—“A new genus of trematodes belonging to the subfamily Allocreadiinae.” xxiv (2), 81-83. [1934.]
- b. PRICE, E. V.—“New genera and species of blood flukes from a marine turtle, with a key to the genera of the family Spirorchidae.” xxiv (3), 132-141. [1934.]
- c. STEINER, G.—“A new species of the nematode genus *Aphelenchoides* living in the sugar cane.” xxiv (3), 141-143. [1934.]

(a) Linton erects the new genus *Cymbephallus* for the marine fish trematode *Distomum vitellosum* (Allocreadiinae) which thus becomes *Cymbephallus vitellosus*; and adds a new species, *C. fimbriatus* from the intestine of the N. American fishes *Menticirrhus saxatilis*, *M. americanus*, *Bairdiella chrysura* and *Sciurus* [?] *ocellatus*.

S.G.S.

(b) Price describes four new species of Spirorchidae, representing three new genera, from the blood vascular system of turtles, viz., (i) *Neospirorchis schistosomatoides* n. g., n. sp.—(ii) *Amphiorchis amphiorchis* n. g., n. sp. These two inhabit the visceral blood vessels of *Chelone mydas*. (iii) *Learedius* n. g. comprises two new species: *L. learedi* and *L. similis* both from the circulating system of the same Chelonean. The writer also includes in the genus *Learedius*, “*Distoma constricta*” described by Leared from the heart of an edible turtle. The paper closes with a list of, and key to, the known genera of Spirorchidae.

S.G.S.

(c) Steiner describes the occurrence and details the morphology of *Aphelenchoides heterophallus* n. sp., in the stalk of sugar cane from Jamaica.

A pure culture of the nematode was found in the discoloured axial portion of the cane. It is suggested that some association with an insect may be involved—probably a carrier relationship. The species is most closely related to species associated with bark beetles. A detailed morphological description of adult males and females is given. M.J.T.

81—Lancet.

- a. FISHER, A. C.—“The treatment of schistosomiasis with acriflavine.” CCXXVI (5774), 897. [1934.]

(a) Fisher has found that 39 out of 52 cases of intestinal bilharziasis became free from symptoms in less than 3 days and ceased to pass any but degenerate ova within a week after oral administration of a 2 per cent. aqueous solution of Acriflavine. The dosage was regulated to age and weight. Adults weighing 60 Kg. or more received a total dose equivalent to 0.01 gm. per Kg. with a maximum dose of 0.7 gm. No toxic manifestations or unpleasant sequelae were encountered. R.T.L.

82—Lingnan Science Journal.

- a. CHEN, H. T.—“Helminths of cats in Fukien and Kwangtung Provinces with a list of those recorded from China.” XIII (2), 261-273. [1934.]
b. CHEN, H. T.—“Notes on Paragonimus in rats.” XIII (2), 329-330. [1934.]

(a) Chen has made a survey of the helminth parasites of cats in South China from an examination of 57 animals from Canton and 32 from Foochow. Cantonese cats harboured 19 species of worms while 7 were recorded from Foochow hosts. The high incidence of *Clonorchis sinensis* infection in Cantonese (80 per cent.) and Foochow animals (59 per cent.) confirms the author's theory that cats are the most important reservoir hosts for Clonorchiasis in South China. Apparently three species of *Monorchotrema* occur in cats, but identification is pending. *Stamnosoma* sp., sparganum in the body cavity, *Ancylostoma braziliense*, *Capillaria* sp. and *Strongyloides* sp. are believed to be new records for Cantonese cats. A list of the helminths occurring in cats in China is given. J.N.O.

(b) Chen, subsequent to recording immature specimens of *Paragonimus* in the lungs of Cantonese rats and a dog [see Helm. Abs., II, 100a; III, 32a], has observed mature forms in rats and considers the finding of the flukes of significance in that the parasites may be quite abundant in man and animals in the province and that the discovery of human infections is only a matter of time. J.N.O.

83—Malayan Medical Journal.

- a. RUSSELL, P. F.—“Racial and age-group incidence of common intestinal helminths in the Straits Settlements.” IX (1), 17-22. [1934.]

(a) On the basis of 27,000 stool examinations, chiefly of Malays, Chinese and Indians of all ages in the Straits Settlements, made during the years 1925-8, Russell discusses the age-group and racial incidence of hookworm, ascaris and whipworm. Racially the Malays show the highest incidence of all three worms and the Chinese the lowest, except in respect of whipworm in the age-groups below 40. In all races ascaris and whipworm

show a reduced incidence in the age-groups after 6-12, whereas hookworm shows an increasing incidence throughout life, apart from a temporary reduction in Malays in the 13-18 age-group. B.G.P.

84—Marseille Médical.

- a. BOSCH, P.—“Anaphylaxie passive conférée au cobaye en partant du sérum d' une malade atteinte de cénurose.” LXXI (6), 291-294. [1934.]

(a) Bosch finds that serum from rabbits infested with *Coenurus cerebralis* has the power of conferring a passive anaphylaxis on guineapigs when inoculated intraperitoneally.

This property remains in the serum of the rabbit for at least 8 months after the surgical removal of the coenurus. It is operative in the guineapig 48 hours after the inoculation but has disappeared after 1 month. The anaphylaxis, which is often fatal, is stimulated to activity by the intracerebral inoculation of fluid from a coenurus. The degree of anaphylaxis varies directly with the quantity of serum inoculated. P.A.C.

85—Münchener Tierärztliche Wochenschrift.

- a. ALBRECHT, A.—“Neuere Beobachtungen über Krankheiten der Pelztiere und deren Bekämpfung.” [to be continued.] LXXXV (10), 113-118. [1934.]
 b. SZEPESHELYI A. & URBÁNYI, L.—“Anreicherungsverfahren zum Nachweis der Distomeneier.” LXXXV (25), 293-295. [1934.]
 c. SCHÄTZL, J.—“Verminekrin als Anthelminthikum beim Hund.” LXXXV (27), 317-318. [1934.]

(a) Albrecht gives a comprehensive résumé of recent observations on the diseases of fur-bearing animals. In this part (a continuation is promised) he deals with the infectious diseases, coccidiosis, and helminthiasis in the lungs, intestine and urinary organs. The survey makes it clear that lung-worm disease is on the increase in German fur farms, and also that the fur-bearing animals have brought into prominence a number of trematodes, cestodes and nematodes not met with in the domesticated animals strictly so called. B.G.P.

(b) Szepeshelyi and Urbányi give details of a technique for concentrating distome eggs by flotation. A solution of potassium mercuric iodide of specific gravity about 1.440 is mixed with faeces, in the proportion 5-6 cc. to 1 gm., and the mixture centrifuged for 3-4 minutes at 2,500 r.p.m. The surface is removed with a flat glass pestle and 55 per cent. of the eggs are present in the first drop, where 100 per cent. is taken as the eggs present in the first 5 drops. The solution does not deform the eggs and it has a low viscosity, and is therefore rapid in action. B.G.P.

(c) Schätzl has tested the effects of “Verminekrin” as an anthelmintic for dogs. He found it useless against ascarids, and in the full dose (10 cc.) it caused vomiting. Given in two doses of 5 cc. separated by 10-15 minutes, *Dipylidium caninum* was usually evacuated within an hour. The drug contains arecolin and methylene blue, and acts by increasing peristalsis without killing the worms; hence it is useful to give an enema an hour after the drug has been administered, otherwise the tapeworms often remain in the large intestine from which they might return to the small intestine again. B.G.P.

86—North American Veterinarian.

- a. DIKMANS, G.—“Nematodes as the cause of a recently discovered skin disease of cattle in the United States.” xv (6), 22-25. [1934.]
- b. CHITWOOD, B. G.—“A nematode, *Stephanofilaria stilesi*, new species, from the skin of cattle in the United States.” xv (6), 25-27. [1934.]
- c. HALL, M. C.—“Outline for a campaign against the common sheep liver fluke and the large American cattle fluke in the United States.” xv (6), 48-55. [1934.]

(a) Dikmans draws attention to the occurrence in cattle in the United States of a skin disease associated with a filarial worm apparently closely related to the disease “cascado” reported from Sumatra as due to *Stephanofilaria dedoesi* by Ihle & Ihle-Landenberg in 1933. The skin lesion begins as a small, pea sized papule covered with a thin scab, the area gradually enlarges through the confluence of a number of these lesions; the skin thickens and often breaks, itching occurs and as a result the involved area becomes torn and bloody and marked by deep cracks. Later the skin may become thick and hornlike. Diagnosis can be made by examining for nematodes scrapings of the affected part. R.T.L.

(b) The filarial worm recently discovered by Dikmans in skin lesions in cattle in the United States has been compared by Chitwood with the worm *Stephanofilaria dedoesi* which causes similar lesions in Sumatra. The chief grounds upon which a new species is created for the American form are that *S. stilesi* n. sp. has the second row of cephalic spines incomplete and asymmetrical while the vulva is 78 to 90 μ from the anterior end. Chitwood records also the presence of *Rhabditis strongyloides* associated in the skin with *S. stilesi*. R.T.L.

(c) With much circumlocution, Hall expounds in complicated military jargon the simple facts upon which the League of Nations might happily and successfully attempt fluke eradication in the United States. R.T.L.

87—Office International d'Hygiène Publique. Bulletin Mensuel.

- a. FRIDIE, E.—“Méthodes récentes à employer dans le problème de la bilharziose, avec remarques sur les régions irriguées de la province du Nil Bleu du Soudan Anglo-Egyptien.” xxvi (5), 904-907. [1934.]

(a) Since 1924 part of the vast region of the Gezira on the Blue Nile has been irrigated. The author deals with the problem of the entrance of Bilharzia into this particularly susceptible area, and briefly describes the steps which are being taken by the Government for its control by annual inspections of the indigenous population, quarantine, the use of disinfectants in the canals, and the introduction of latrines. R.T.L.

88—Okayama-Igakkaï-Zasshi.

- a. WATANABE, M.—“Ueber die Embryonalentwicklung von *Schistosoma japonicum*.” XLVI (3), 615-617. [1934.]
- b. UYENO, H.—“Über pathologisch-histologische Veränderungen der Kaninchenniere bei experimenteller Clonorchiasis sinensis.” XLVI (4), 793-801. [1934.]

(a) Watanabe has traced the embryology of *Schistosoma japonicum* from the unsegmented egg to the miracidium. The first cleavage gives rise to a larger cell, developing into membrane cells which cover the

embryo up to the stage of ciliation. The smaller first-cleavage cell forms the morula. The formation of a thin cuticular membrane (hitherto unobserved in trematodes), of the gut from 4 cells which later form a syncytium, of the rostellar apparatus, nervous, excretory and glandular organs, are also described. [There are 5 figures interspersed in the Japanese text and 5 pages of figures at the end.]

B.G.P.

(b) Uyeno describes from material obtained from experimentally infected rabbits the pathological changes which occur in the kidney as a result of *Clonorchis sinensis* infection. These changes are due partly to the metabolic products of the parasite which are circulating in the blood and partly to intermediate metabolic products originating from pathological changes in the infected liver.

R.T.L.

89—Parasitology.

- a. ELTON, C.—“Metazoan parasites from mice in the Isle of Lewis, Outer Hebrides.” xxvi (1), 107-111. [1934.]
- b. CANAVAN, W. P. N.—“On a trematode *Allopyge undulatus* n. sp. parasitic in Lilford's crane (*Megalornis grus lilfordi*).” xxvi (1), 117-120. [1934.]
- c. HICKMAN, V. V.—“On *Coitocaecum anaspidis* sp. nov., a trematode exhibiting progenesis in the fresh-water Crustacean *Anaspides tasmaniae* Thomson.” xxvi (1), 121-128. [1934.]
- d. BAYLIS, H. A.—“Some parasitic worms from Australia.” xxvi (1), 129-132. [1934.]
- e. DAVIES, E.—“On the anatomy of the trematode *Petasiger exaeretis* Dietz 1909, from the intestine of *Phalacrocorax carbo*.” xxvi (1), 133-137. [1934.]
- f. MCINTOSH, A. & CHITWOOD, B. G.—“A new nematode, *Longibucca lasiura* n. sp. (Rhabditoidea, Cyndrogasteridae), from a bat.” xxvi (1), 138-140. [1934.]
- g. WOODLAND, W. N. F.—“On the Amphilaphorchidinae, a new subfamily of Proteocephalid cestodes, and *Myzophorus admonticellia*, gen. et sp. n., parasitic in *Pirinampus* spp. from the Amazon.” xxvi (1), 141-149. [1934.]
- h. BROOKS, G. L.—“Some new ectoparasitic trematodes (Onchocotylineae) from the gills of American sharks.” xxvi (2), 259-267. [1934.]
- i. WOODLAND, W. N. F.—“On some remarkable new cestodes from the Amazon siluroid fish, *Brachyplatystoma filamentosum* (Lichtenstein).” xxvi (2), 268-277. [1934.]
- j. SANGROUND, J. H.—“*Nematostrigea serpens* (nom. nov.): a redescription of *Holostomum serpens* Nitzsch 1819.” xxvi (2), 278-281. [1934.]

(a) Elton, in a preliminary survey of parasites from mice in the Isle of Lewis, Outer Hebrides, records the occurrence of females of *Syphacia* ? *stroma* in two specimens and *Nematospiroides dubius* in a single specimen of the Hebridean Field Mouse, *Apodemus hebridensis* taken near Stornoway.

J.N.O.

(b) In identifying 10 flukes collected from animals in the Philadelphia Zoo, Canavan has made two new host records, viz., *Renifer ellipticus* from *Castor canadensis* and *Opisthorchis tenuicollis* from *Felis canadensis*, and has found a new species *Allopyge undulatus*, from the air sacs of *Megalornis grus lilfordi*, which is here described.

B.G.P.

(c) Hickman describes *Coitocaecum anaspidis* n. sp. encysted as a metacercaria in the shrimp *Anaspides tasmaniae* found in small streams on Mt. Wellington, Tasmania. The Coitocaecidae are adult in fish, but in this locality there are no fish and the metacercaria exhibits progenesis, laying its eggs within the cyst. Eggs and miracidia, set free by rupture

of the cyst, are carried by the blood sinuses to various parts of the body. The circulation in an appendage is frequently blocked by them, the appendage disintegrates, and the eggs are set free. The metacercaria occurs also in *Gammarus* sp. The first intermediary is unknown. B.G.P.

(d) Among a collection of helminths from Queensland Baylis has found three new species, viz., *Hymenolepis robertsi* from *Querquedula gibberifrons*, *Aploparaksis veitchi* from the same host, and *Capillaria lophortygis* from the crop of a Californian quail (? *Lophortyx californica*) imported from America. B.G.P.

(e) As the description of *Petasiger exaeretis* given by Dietz was incomplete, Davies here re-describes the echinostome from numerous specimens found in two cormorants. B.G.P.

(f) McIntosh and Chitwood describe *Longibucca lasiura* n. sp. from the small intestine of a bat, *Lasiurus borealis*, captured near Washington, D.C. Unlike the other species, *L. vivipara*, the male of *L. lasiura* has unequal spicules. The species has subsequently been found in *Eptesicus fuscus*. B.G.P.

(g) On the basis of *Amphilaphorchis piranabu* n. g., n. sp., and *A. myoides* n. sp. which are here described from the Amazonian fish *Pirinampus pirinampus*, Woodland erects the Amphilaphorchidinae as a new subfamily of the Proteocephalidae characterized by a cortical distribution of testes, vitellaria and ovary, the uterus alone being wholly medullary. *Myzophorus admonticellia* n. g., n. sp., also from *Pirinampus* spp., is assigned to the Phyllobothriidae, in spite of some proteocephalid features. In a terminal note it is pointed out that *Othinoscolex* falls into the synonymy of *Peltdocotyle*, so that the name Othinoscolecinae must be replaced by Peltdocotylineae. The cestode, described by Woodland as *Peltdocotyle rugosa* Diesing, is now given the new names *Spatulifer surubim*. B.G.P.

(h) Brooks describes four new species of trematodes from the gills of American sharks. *Heteronchocotyle hypoprioni* n. g., n. sp. from the yellow shark (*Hypoprion brevirostris*) differs from the genera of Onchocotylineae chiefly in the unequal size of the sucker hooks. *Squalonchocotyle ginglymostomae* n. sp. from the Nurse shark (*Ginglymostoma cirratum*) differs from known species in that the intestine ramifies within the appendix and in the form of the vaginal pores. In *S. microstoma* n. sp. from the hammerhead shark (*Sphyrna zygaena*) the intestine ramifies in the fixation disc. *S. tiburonis* n. sp. from the bonnet shark (*Sphyrna tiburo*) has similarly the intestine branching in the fixation disc but the oral sucker is larger and the testes differ. R.T.L.

(i) Woodland gives an up-to-date list of the known genera and species of the subfamilies of Proteocephalidae excluding Proteocephalinae. He describes two new genera, viz., *Endorchis piraeaba* n. g., n. sp. and *Nomimoscolex piraeaba* n. g., n. sp. from a silurid fish in the Amazon. R.T.L.

(j) Sandground redescribes *Holostomum serpens* Nitzsch, 1819 on material from Mozambique and transfers it to a new genus *Nematostrigea* near to *Cardiocephalus* (Strigeoidea) differing chiefly in relative size and in the structure of the forebody. R.T.L.

90—Physiological Zoology.

- a. WARDLE, R. A.—“The viability of tapeworms in artificial media.” VII (1), 36-61. [1934.]

(a) Wardle discusses the problem of tapeworm cultivation outside the body of the host and gives an account of his experiments to test the survival of the tetrarhynchid larva, *Nybelinia surmenicola*, in a range of saline and nutrient media.

While no indication of growth was observed in any of the media used, the author found that balanced salines are more favourable to the survival of the larvae than are their component salts and that sterilized, double-strength, sugar-free Ringer-Locke's solution gave the maximum (456 hours) survival time value. The highest values in a range of nutrient media were obtained in serum-saline-gel (192 hours), sterilized Locke-bouillon (200 hours), and Locke-glucose (408 hours). The effects of certain ions on cestode tissues are fully discussed.

D.O.M.

91—Phytopathology.

- a. MAGISTAD, O. C. & OLIVEIRA, J. M.—“Changes in plant-food caused by a population of *Heterodera marioni* (Cornu) Goodey on *Ananas comosus*.” XXIV (3), 276-283. [1934.]
- b. GODFREY, G. H. & HOSHINO, H. M.—“The trap crop as a means of reducing root-knot nematode infestation.” XXIV (6), 635-647. [1934.]
- c. GODFREY, G. H. & HAGAN, H. R.—“A study of the root-knot-nematode trap crop under field soil conditions.” XXIV (6), 648-658. [1934.]

(a) Magistad and Oliveira describe the experimental determination of the damage to pineapple plants caused by infestations of *Heterodera marioni*.

It was shown that the presence of nematodes reduced the rate of growth as shown by dry matter contents, and reduced the roots both in number and length. Infected plants were shown to absorb from 40 to 50 per cent. less nitrogen than clean plants, and, while the application of fertilizer increased the percentage of nitrogen in the plant, it failed to increase the growth of infected plants.

M.J.T.

(b) Godfrey and Hoshino describe small-scale experiments on the trap-crop method of nematode eradication applied to *Heterodera marioni*. Tomato plants used as trap-crops in infected soil contained in vessels of 1 gallon capacity withdrew 98 per cent. of the infection in a single planting. Cowpeas used in larger quantities of soil withdrew up to 30 per cent. of the available larvae in a single planting. Nematodes were not entirely eradicated after repeated plantings of cowpeas but were very greatly reduced.

M.J.T.

(c) Godfrey and Hagan record the results of investigations on the use of trap-crops as a practical measure adapted to field use of ridding infested soil of *Heterodera marioni*.

It was found that owing to the short time the trap-crops could remain in the soil without danger of intensifying the infection the nematodes in the lower layers of soil were unaffected. Two plantings of the trap-crop reduced

the nematodes by over 90 per cent. but total eradication did not take place even after 16 plantings. Complete fallow for an equal period was as successful as the trap-crop method in reducing the nematode population. M.J.T.

92—Proceedings of the American Academy of Arts and Sciences.

- a. TYZZER, E. E.—“Studies on Histomoniasis, or ‘Blackhead’ infection, in the chicken and turkey.” LXIX, 189-264. [1934.]

(a) Tyzzer in his detailed studies on Blackhead shows conclusively that the organism may be carried by the embryonated eggs of *Heterakis*; although the organism has not yet been recognized microscopically in the egg, he finds it in the intestinal epithelium of the worm. He finds that large numbers of *Heterakis gallinae* developing in the caeca of young chickens produce *per se* a characteristic helminthic typhlitis. T.W.M.C.

93—Proceedings of the Helminthological Society.

- a. FALLIS, A. M.—“A note on some intermediate hosts of *Echinostoma revolutum* (Froelich).” I (1), 4-5. [1934.]

(a) Fallis here gives in brief outline the life-history of *Echinostoma revolutum*. Rediae and cercariae were found in *Stagnicola palustris*, *Helisoma trivolvis* and *Physa gyrina*. Encysted metacercariae were found in these snails and also in *Fossaria* spp., pelecypods, and tadpoles. On feeding infected tadpoles to goslings eggs of *E. revolutum* were obtained in from 15-19 days. B.G.P.

94—Proceedings of the Zoological Society of London.

- a. REES, F. G.—“*Cercaria patellae* Lebour, 1911, and its effects on the digestive gland and gonads of *Patella vulgata*.” Part I, pp. 45-53. [1934.]

(a) Miss Rees has studied the histological and cytological changes which take place in the parasitized digestive gland and gonads of *Patella vulgata*. The physiological injury is more important than the mechanical injury. The normal excretory processes of the liver are interrupted. If the waste products of the developing rediae are not removed sufficiently rapidly the accumulation of acid brings about histological alterations in the epithelium lining the diverticula and local histolysis results. In the gonads the germinal epithelium atrophies and is ultimately destroyed. The molluscs can recover rapidly from a heavy infection. R.T.L.

95—Publications. Carnegie Institution of Washington.

- a. MANTER, H. W.—“Some digenetic trematodes from deep-water fish of Tortugas, Florida.” No. 435, 257-345. [1934.]

(a) The little-known helminth fauna of deep-sea fishes has been studied by Manter by trawlings from 40 to 582 fathoms at Tortugas. 49 trematodes are described.

An interesting result is the discovery that the deep-sea trematodes are identical with forms recorded from northern and far distant waters while

the local helminths in shallow water fishes do not show any similarity, suggesting that temperature plays an important part in the distribution of marine fish trematodes and that some species may eventually be found to have a continuous distribution from the arctic to the antarctic through deep water hosts. One new subfamily Siphoderinae (Heterophyidae), 12 new genera and 33 new species are described. The new genera are *Siphoderina* with *S. brotulae* n. sp. as type; *Megenteron* with *M. crassum* n. sp. as type; *Lomaphorus* with *L. wardi* n. sp. as type; *Lissoloma* with *L. brotulae* n. sp. as type; *Benthotrema* with *B. plenum* n. sp. as type; *Brachyenteron* with *B. peristedioni* n. sp. as type; *Eurycreadium* with *E. vitellosum* n. sp. as type; *Dinosoma* with *D. rubrum* n. sp. as type; *Parasterrhurus* with *P. anurus* n. sp. as type; *Hemiperina* with *H. nicolli* n. sp. as type; *Myzoxenus* with *M. vitellosus* n. sp. as type; and *Opecoelina* with *O. scorpaenae* n. sp. as type. Linton has in the press a new genus *Cymbephallus* with *Distomum vitellosum* as type. R.T.L.

96—Queensland Agricultural Journal.

- a. ROBERTS, F. H. S.—“Worm parasites of domesticated animals in Queensland.” XLI (3), 245-252. [1934.]

(a) From animals slaughtered mainly at the Brisbane abattoir Roberts has prepared a check list of the worm parasites of Queensland stock. This useful information is tabulated under parasites and under hosts. R.T.L.

97—Recueil de Médecine Vétérinaire Exotique.

- a. POISSON, H.—“Les helminthiases du porc à Madagascar.” VII (1), 10-15. [1934.]

(a) Apart from Cysticercosis upon which several papers have already appeared Poisson lists the helminths in pigs in Madagascar, viz., *Metastrongylus brevivaginitus*, *Gnathostoma hispidum*, *Physocephalus sexalatus*, *Arduenna strongylina*, *Gigantorhynchus gigas*, *Oesophagostomum dentatum*, *Globocephalus longemucronatus*, *Ascaris suum*, *Stephanurus dentatus*, *Echinococcus*, *Cysticercus hydatigenus* and *Sparganum*. R.T.L.

98—Revue Suisse de Zoologie.

- a. DUBOIS, G.—“Contribution à l'étude des Cercaires de la région de Neuchâtel, suivie d'une note sur les Cercaires du Lac Noir.” XLI (1), 73-84. [1934.]
 b. JOYEUX, C. & BAER, J. G.—“Note sur une nouvelle espèce de trématode *Gorgoderina capsensis* n. sp.” XLI (9), 197-201. [1934.]
 c. JOYEUX, C. & BAER, J. G.—“Sur un trématode de Couleuvre.” XLI (10), 203-215. [1934.]

(a) Dubois describes 5 species of *Cercaria* from Lake Neuchâtel, of which one is new, and one species from Lac Noir. The new species is referred to as *Cercaria helvetica* XXXIV. The histolytic glands, digestive and excretory systems are described and figured. The characteristic sporocyst, consisting of a chain of sac-like vesicles occurs in *Lymnaea stagnalis*. The intra-molluscan metamorphosis from sporocyst to cercaria is described. This species is closely related to *Cercaria* A. Szidat. The other cercariae are *C. helvetica* VI, *C. helvetica* XXXI, *C. helvetica* XXVII, *C. monostomi* and *Cercariaeum helveticum* I. S.G.S.

(b) *Gorgoderina capsensis* n. sp. is described by Joyeux and Baer occurring in the bladder of the frog *Rana esculenta* L. var. *ridibunda* Pall. from Tunis, and is the first *Gorgoderina* to be described from N. Africa. Specific diagnosis is based on the dimensions of the suckers and the eggs. Small, but sexually mature, specimens found in the abdominal muscles indicate that these parasites mature before reaching the bladder, and evidence of a leisurely migration in the host is produced. The miracidium was found to enter the lamellibranch *Pisidium nitidum* Jenyres, but no further development occurred in the 226 infected molluscs examined. S.G.S.

(c) Joyeux and Baer show that *Prohemistomum joyeuxi* from the intestine of a snake *Tropidonotus viperinus* (Lat.), found in Tunis, is the adult form of a metacercaria described by Chester Hughes as *Diplostomum joyeuxi* which occurs in a frog *R. esculenta* L. var. *ridibunda* and a fish *Astatotilapia desfontainesi*, in the same locality. Positive results were obtained by feeding grass snakes with infected frogs. This metacercaria appears to correspond with *Cercaria vivax* Sonsino 1892, but Abdel Azim (1933) has shown that *C. vivax* found in Egypt develops into *Prohemistomum spinulosum*, which should, by the law of priority, be called *P. vivax* (Sonsino 1892) and which differs in its morphology from *P. joyeuxi*. Thus the writers conclude that *C. vivax* probably includes two indistinguishable cercarial larvae. A diagnostic table of the species of *Prohemistomum* is included. S.G.S.

99—Science.

- a. HOPKINS, S. H.—“The parasite inducing pearl formation in American fresh-water Unionidae.” LXXIX (2052), 385-386. [1934.]

(a) As all the encysted metacercariae which have been found in Unionids in Central Illinois belong to *Allocreadium ictaluri* Hopkins considers that there is good presumptive evidence that this is the species which induces pearl formation in North American freshwater clams. The adult trematode occurs in the channel catfish *Ictalurus punctatus*. R.T.L.

100—Smithsonian Miscellaneous Collections.

- a. FILIPJEV, I. N.—“The classification of the free-living nematodes and their relation to the parasitic nematodes.” LXXXIX (6), 63 pp. [1934.]

(a) Filipjev has attempted a comprehensive classification of all the nematodes, free-living and parasitic.

The paper opens with a discussion on the status of the nematodes in the animal kingdom. Consideration is given to whether the group should be considered as a distinct phylum with only one class or a class with very uniform characters in the phylum Vermes. The relative numbers of free-living and parasitic forms is dealt with and it is concluded that there are more extant descriptions of parasitic than free-living. From a consideration of the structure of the excretory system, the musculature and certain physiological facts, Filipjev concludes that the free-living nematodes, especially the marine forms, are the most primitive. He cites with approval the words of Bastian that the organisation of the free-living forms “as a whole, differs in no obvious or important manner from that of their parasitic kindred.”

Within the class Nematoda, Filipjev proposes the following orders:—Enoplata, Chromodorata, Desmoscolecta, Monhysterata, Anguillulata, Oxyurata, Ascaridata, Spirurata, Filariata, Dioctophymata, Trichurata. A key is given for these orders. The first six of them are briefly discussed in turn, and keys set out the families within each. Subfamilies (where present) and genera of each family are then given followed by a key to the subfamilies.

The subfamilies and genera of the family Strongylidae (included in the order Anguillulata) are not set out in key form. The orders Ascaridata, Spirurata, Filariata, Dioctophymata and Trichurata are briefly discussed at the end of the paper but keys to families, subfamilies and names of genera are not given for these orders.

T.G.

101—South African Medical Journal.

- a. "A symposium on bilharziasis," VIII (9), 319-326.
MÖNNIG, H. O.—"I. Helminthology." pp. 319-320.
PIJPER, A.—"II. The pathology of South African bilharziasis." pp. 320-321.
EPSTEIN, B.—"III. The signs and symptoms of bilharziasis." pp. 321-323.
WRONSLEY, W. H. L.—"IV. The treatment of bilharziasis." p. 323.
KIESER, J. A.—"V. Bilharzia and the school." pp. 323-325.
CLUVER, E. H.—"VI. Prevention of urinary bilharziasis in the Union." p. 325.

(a) In this symposium on Bilharziasis Mönnig deals with the various species of adult parasites known to occur in man and succinctly outlines their life-history. Pijper deals with the pathology of *S. haematobium* as seen in South Africa; Epstein describes the various stages seen clinically; Lloyd Wronsley briefly summarizes the dosage of Tartar emetic, Fouadin and Emetine. Kieser points out the mental and physical disabilities which are due to Bilharziasis in teachers and pupils in South African schools where at present a person suffering from Bilharziasis is not admitted to the regular teaching staff under contract.

R.T.L.

102—Taiwan Igakkai Zasshi.

- a. YOSHINO, K.—"On the subjective symptoms caused by the parasitism of *Taenia solium* and its development in man." XXXIII (1), 183-194. [English summary p. 15.] [1934.]
- b. ISHII, Y.—"Studies on the development of *Fasciolopsis buski*. Part I. Development of the eggs outside the host. Part II. Morphology and biology of the miracidium. Part III. Development in the intermediate host of *Fasciolopsis buski*, and ecyestation of the encysted cercaria." XXXIII (3), 349-412. [English summary pp. 29-32.] [1934.]

(a) By experimental infection Yoshino has shown that *Cysticercus cellulosae* develops to an adult *Taenia* in from 62 to 72 days. In a healthy person the presence of a few adults may cause only slight gastro-intestinal symptoms, usually rather more pronounced in the early stage of the infection.

R.T.L.

(b) In three successive parts Ishii discusses the cellular differentiation of the eggs, the morphology and biology of the miracidium and the larval development and cercarial encystment of *Fasciolopsis buski*. The cercariae

leave the molluscan intermediary 31 to 35 days after infection. Mechanical stimuli, the higher temperature of the host and the presence of bile are essential aids to the excystment of the encysted cercariae for they are not freed by the action of gastric and intestinal juices alone. R.T.L.

103—Technical Bulletin. United States Department of Agriculture.

- a. SPINDLER, L. A.—“Field and laboratory studies on the behavior of the larvae of the swine kidney worm, *Stephanurus dentatus*.” No. 405, 17 pp. [1934.]

(a) Spindler finds the larvae of *Stephanurus* in Georgia almost entirely on moist, shaded soil, particularly under piles of debris where pigs are fed; they were rare in the wallows. In the debris they live for over two months, but on unshaded packed soil for only three days. They are very susceptible to low temperatures, to exposure to sunlight, to drying and to heat.

T.W.M.C.

104—Transactions of the American Microscopical Society.

- a. BOSMA, N. J.—“The life history of the trematode *Alaria mustelae*, Bosma, 1931.” LIII (2), 116-153. [1934.]
- b. MCFARLANE, S. H.—“*Stephanostomum casum* (Linton), a trematode possessing a uroproct.” LIII (1), 172-173. [1934.]
- c. LI, H. C.—“Report on a collection of parasitic nematodes mainly from North China. Part II. Spiruroidea.” LIII (2), 174-195. [1934.]
- d. KRULL, W. H.—“Some additional notes on the life history of a frog lung fluke, *Haematoloechus complexus* (Seely, 1906) Krull.” LIII (2), 196-199. [1934.]

(a) Bosma finds that the Strigoid *Alaria mustelae* develops to a cercaria in *Planorbula armigera* (Say). It requires two hosts for metamorphosis from cercaria to metacercaria for the early metacercarial stage in tadpoles (acting as the second intermediary) is arrested in development and the regular metacercarial stage with its precocious adult tendencies occur in a third intermediary, viz., in mice. The morphology of the various stages of the life-history and of the adult is described in detail. R.T.L.

(b) In *Stephanostomum casum* the two branches of the intestine discharge into the excretory bladder by ducts a short distance anterior to their termini and on their mesial margins. McFarlane suggests that the name uroproct be used to designate the condition in which the crura of the gut and the excretory bladder become united and open to the exterior by a common pore. R.T.L.

(c) This second part of Li's report deals with the *Spiruroidea* of North China. It includes a description of *Sicarius* n. g. for *S. dipterum* nom. nov. for *Habronema dipterum* Popowa, 1927, and records 4 new species, viz., *Habronema circi* n. sp., *Skrjabinelazia hoffmanni* n. sp., *Ancyracanthopsis fausti* n. sp. and *Synhimantus groffi* n. sp. Eight other species are redescribed. R.T.L.

(d) Krull's paper of 1933 [see Helm. Abs., II, No. 299b] on the life-history of *Haematoloechus complexus* is supplemented by data obtained from experimentally infected snails. The dragonfly and two damselflies have been found to be new second intermediate hosts. R.T.L.

105—Transactions of the Highland and Agricultural Society of Scotland.

- a. ORR, J. B., FRASER, A. H. H. & ROBERTSON, D.—“Parasitic worms and their importance in sheep-farming.” (Ser. 5), XLVI, 113-125. [1934.]

(a) Orr, Fraser and Robertson discuss the importance of parasitic worms in sheep-farming with special reference to the stomach forms, *Haemonchus contortus* and *Ostertagia circumcincta*.

In the absence of an effective drug against *O. circumcincta*, which appears to be the more prevalent form in Scottish sheep, control measures, in the authors' opinion, must largely depend on the system of husbandry adopted. Overstocking and underploughing both tend to increase the worm burden of sheep. While a system of progressive sectional grazing leads, from experimental evidence, to a considerable reduction in the number of worms picked up it is seldom, if ever, possible to graze sheep once over a pasture and then leave it unshipped for the rest of the season. The use of cattle or horses, either as followers or for mixed grazing, is preferable to grazing sheep alone. The natural resistance of sheep to worm attack relative to advancing age and poor nutrition is also discussed.

J.N.O.

106—Transactions of the Royal Society of Tropical Medicine and Hygiene.

- a. VAN HOOFF, L.—“Serological reactions in Onchocerciasis.” XXVII (6), 609-617. [1934.]

(a) Van Hoof has carried out the reaction of Calmette and Massol, using an antigen of *Onchocerca volvulus* with titres of 1/25, 2/25 and of 2/7 to 2/9. The control reaction was carried out with the Bordet-Ruelens antigen. With the serum of carriers of *O. volvulus* the reaction has given positive results in over 80 per cent. of the cases.

Certain known carriers were, however, persistently negative, in which cases it seems that the humoral response detectable by the test is non-existent or weak. The test is specific for *O. volvulus* and is not altered by the presence of any other helminth infestation or of yaws or syphilis. By means of this test antibodies have been detected in serum, cerebrospinal fluid, synovial fluid, oedematous fluid and in peritoneal fluid. The antigen is stable and constant.

P.A.C.

107—Veterinary Medicine.

- a. KINSLEY, A.—“Epizootic in the equine due to parasites.” XXIX (2), 68-72. [1934.]

(a) Kinsley has investigated a disease of horses and mules prevalent in St. Croix (Virgin Islands, West Indies) and characterized by gastric indigestion and colic; there is a high mortality—80 per cent. to 90 per cent.—in untreated cases, but if treatment is applied, early, 75 per cent. recover. There were no unusual losses until four years ago—possibly because in prosperous times rations were better. He finds that helminths are the principal cause of the epizootic and recommends preventive measures. In Puerto Rico a similar condition is present in animals pastured or fed local grasses.

T.W.M.C.

108—Veterinary Record.

- a. WITENBERG, G.—“Parasitic worms of dogs and cats in Palestine.” XIV (9), 232-239. [1934.]
- b. KENNEDY, A. J.—“Lungworm disease in cattle.” XIV (11), 281-282. [1934.]
- c. PILLERS, A. W. N.—“Notes on the canine and feline tapeworms with elliptical segments.” XIV (12), 307-309. [1934.]

(a) Witenberg, in the past five years, has found 35 species of worms in dogs and 28 in cats in Palestine—100 per cent. of the former and 90 per cent. of the latter being infected. 16 species of Trematodes are found—mostly Heterophyidae, and all fish-carried. *Dipylidium* is the commonest cestode but *Mesocestoides* is not uncommon. Several of the Taenias (including *Echinococcus*) also occur. Among the nematodes, the Ascarids and Hookworms are common, as also is *Spirocerca sanguinolenta*; while *Trichinella spiralis*, *Dirofilaria repens* and *Rictularia cahirensis* also occur. The article concludes with a complete check list of the parasites of dogs and cats.

T.W.M.C.

(b) Kennedy discusses Lungworms in cattle from the clinical point of view. He uses 15 to 20 cc. of a mixture of turpentine, olive oil, creosote and chloroform injected intratracheally with success.

T.W.M.C.

(c) Pillers, in considering the *Dipylidium*-like tapeworms of dogs and cats, notes that he finds only *D. caninum* in Great Britain and discusses the differential diagnosis of the related forms. He emphasizes the need for looking for “heads” in the faeces after treatment to be sure of cure. He recommends a preparatory course of salines before 24 to 40 hours’ starvation and the administration of the anthelmintic. Three treatments at intervals of a month may be necessary to completely expel the worms, and ectoparasites must be removed.

T.W.M.C.

109—Wiadomości Weterynaryjnych.

- a. STEFAŃSKI, W.—“Mało znany pasorzyt kota-*Spirura rytipleurites* (Deslongchamps, 1824).” [*Spirura rytipleurites* (Deslongchamps, 1824) parasite peu connu du chat.] No. 165, 4 pp. [1934.]

(a) This is an abridged account of Stefański’s extended studies on the development and morphology of *Spirura rytipleurites* appearing in *Ann. Parasit.* XII (3), 203-217 [see Helm. Abs. III, No. 56a].

J.N.O.

110—Zeitschrift für Parasitenkunde.

- a. STUNKARD, H. W.—“Studies on the life-history of anoplocephaline cestodes.” VI (4), 481-507. [1934.]
- b. SCHMID, F.—“Die Verbreitung des Leberegels in Bayern r.d. Rh. Mit besonderer Berücksichtigung des seuchenhaften Auftretens im Jahre 1925.” VI (4), 528-545. [1934.]

(a) Stunkard first gives a résumé of the work that has been done up to date on the life-history of the anoplocephalidae, then he describes in detail the egg and onchosphere of *Cittotaenia* and *Andrya* spp., finally he sets out his own experiments designed to show whether the life-history is direct or involves an intermediary.

Infection could not be set up by feeding small or very large numbers of eggs at all seasons of the year to rabbits from 1-7 months old, and the eggs were evacuated unchanged and viable, even after repeated feedings. Microscopic examinations of the viscera, and of the mammary glands of a young female fed before, during and after pregnancy, were negative. Pre-treatment of eggs under varying conditions of temperature and moisture at different seasons, and treatment with digestive enzymes, failed to render the eggs infective to the primary host (the eggs remained alive after an 18 hours' exposure to the digestive juices of a dog). Stunkard therefore concludes that an invertebrate intermediary is essential to the life-history. B.G.P.

(b) Schmid shows that liver-fluke is very widespread throughout Bavaria. He discusses the incidence of the disease district by district and relates it to the geological nature of the soil and subsoil (two maps show respectively geological formation and incidence of the disease). The influence of climatic factors, particularly rainfall and temperature, is also considered. B.G.P.

111—Zoologischer Anzeiger.

- a. ERHARDT, A. & ORGEL, D.—“Ein neuer Fall von Missbildung bei dem Katzenleberegel *Opisthorchis felineus* (Riv.).” CVI (7/8), 157-161. [1934.]
- b. HEINZE, K.—“Zur Systematik der Gordiiden.” CVI (7/8), 189-192. [1934.]
- c. TALYSIN, T.—“Zur Frage der morphologischen Charakteristik der Strobila bei *Diphylobothrium minus* Chol.” CVI (9), 209-215. [1934.]
- d. STUNKARD, H. W.—“On the trematode genus *Teloporia* Fukui, 1933.” CVI (9), 218-220. [1934.]

(a) Erhardt and Orgel describe a malformed specimen of *Opisthorchis felineus* in which the anterior ends of uterus and vesicula seminalis were occluded. The eggs had ruptured into the right caecum and were evidently voided by the mouth. The uterus was distended and eggs were also present in the receptaculum seminis but not in Laurer's canal. B.G.P.

(b) Heinze proposes the name *Gordius longiformis* n. sp. for a specimen which he previously described under the name *G. longissimus* Römer. He also erects the new genus *Gordiomermis* for *Chordodes hamatus* Römer, and describes *Beatogordius regularis* n. g., n. sp. B.G.P.

(c) Talysin has been able to examine extensive material of *Diphylobothrium minus* Cholodkowsky, 1916, parasitising man on the shores of Lake Baikal. He can distinguish two kinds of strobilae, differing in shape and translucence, but considers that these should not be specifically differentiated until the life-history is known and the constancy of the strains established. B.G.P.

(d) Stunkard points out that Fukui has recently erected the genus *Teloporia* and the family Teloporidae to replace his *Opisthoporus*, preoccupied [see Helm. Abs. Vol. II, No. 212d]. Fukui relied upon MacCallum's original description of *Paramphistomum aspidonectes* in transferring this species to a new genus and family, whereas Stunkard has shown that the species belongs to the Pronocephalidae, so that the name Teloporidae should lapse. The creation of new systematic units for inadequately described species is deprecated. B.G.P.